



Office of Global Programs

Observing, understanding, and predicting global climate



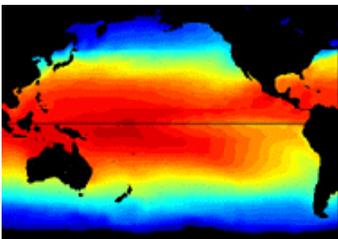
Forest Fire (Summer 2000)

Climate Outlook
December 2000 - February 2001
Precipitation



Map shows area of the country that is expected to experience departures from normal for precipitation during the next 30 days.

<http://www.cpc.ncep.noaa.gov>



Sea surface temperature



The International Research Institute Monell Building

What does the Office of Global Programs do for the nation?

The Office of Global Programs (OGP) manages the NOAA Climate and Global Change (C&GC) Program as well as other NOAA climate related projects. The C&GC Program supports evolving regional, national, and international endeavours designed to improve our ability to observe, understand, predict, assess, and respond to changes in the global environment. The Program has been an essential element of the US Global Change Research Program (USGCRP) since its inception in the late 1980s and has generated critical scientific insights related to the natural earth system. A decade of success, most notably in the area of El Niño prediction, has demonstrated the benefits of a strong partnership between NOAA and external investigators; about 60% of the annual appropriation supports extramural research, the remainder supports climate research inside NOAA. NOAA's efforts are designed to provide a predictive understanding of the climate system and its modes of variability and to advance the application of this information in climate-sensitive sectors through a suite of process research, observations and modeling, and application and assessment activities. Thus, this research supports NOAA's service and natural resource stewardship mission and offers tangible benefits to the Nation in the form of scientific understanding and predictive capacities.

Specifically, OGP supports:

- Reliable climate observations with an emphasis on oceanic and atmospheric dynamics, the water cycle, and oceanic and atmospheric chemistry;
- Archiving, management, and dissemination of data and information useful for global change research;
- Understanding ocean-land-atmosphere interactions, the global hydrological cycle, the global carbon cycle, and the role of aerosols and atmospheric trace gases in climate;
- Improvements in global coupled atmosphere-ocean-land climate modeling and prediction;
- Projection and assessment of climate variability across multiple time-scales;
- Study of the relationship between the natural climate system and society and the development of methodologies for applying climate information to real problems of social and economic consequences (e.g., water resources, health consequences, etc).

Recent Accomplishments:

- The International Research Institute (IRI) for Climate Prediction at the Lamont-Doherty Earth Observatory of Columbia University in Palisades, New York was established in 1996. OGP supports this critical university partnership. ***Payoffs: A world-class, interdisciplinary resource for global change understanding and prediction now exists. The Institute has already made enormous contributions to the understanding and prediction of the second-only-to-the-seasons climate phenomena known as the El Niño-Southern Oscillation (ENSO), with a special recent emphasis in Africa.***

1315 East West
Highway
Silver Spring, MD
20910
(301) 713-1671

www.oar.noaa.gov

- OGP was responsible for the management of the Tropical Ocean Global Atmosphere (TOGA) Program. The Tropical Atmosphere Ocean (TAO) array of moored buoys developed by NOAA's Pacific Marine Environmental Laboratory that span the equatorial Pacific Ocean was the most enduring and valuable legacy of this program. The IRI, NOAA, the World Meteorological Organization (WMO), and most of the relevant national and international research community, use the TAO array data to detect and monitor El Niño and La Niña events. OGP is also actively involved in the provision of similar arrays in the Atlantic and the Indian Oceans. **Payoffs: This array is the ocean equivalent of the Hubble Telescope. It provides accurate, near-to-real-time measurements of critical oceanic and atmospheric variables.**
- New programs based on the TOGA model include Climate Variability (CLIVAR), Pan American Climate Studies (PACS) and the GEWEX Americas Prediction. **Payoffs: The groundbreaking TOGA science legacy lives on through new programs designed to provide fine scale information for model synthesis and development, as well as scientific breakthroughs in our fundamental understanding of the coupled ocean-atmosphere system.**

What's next for OGP?

NOAA will implement a Climate Services program to help reduce impacts from, and adapt to, climate variations and change. The C&GC Program will provide much of the scientific underpinnings for this endeavor. In making the transition from the continuing results of our research programs to operational products, a number of benefits will be readily apparent. Estimates of the value of preparedness in areas such as California and Peru for the 1997-8 El Niño suggest that one half of the likely (unprepared) cost in the absence of any advance warning was avoided. In the future, we should be able to anticipate such climate-related events as the extremely dry conditions and (subsequent) intense summer 2000 fires in the West.

NOAA is a major contributor to multi-agency planning efforts by both the carbon cycle research community and the water cycle research community to design respective, integrated plans. Both research disciplines have advanced to the point where rapid, more efficient progress can only be made if they are independently fully integrated nationally and internationally. These planning efforts have been critical to the organization of new USGCRP foci on the carbon and water cycles for fiscal years 2001 and beyond.

NOAA/OGP will also target research resources on climate variability of longer timescale than seasonal to interannual. Both the Pacific Decadal Oscillation (PDO) and the North Atlantic Oscillation (NAO) may provide new climate information highly relevant to the prediction of weather patterns over North America and Europe.

Budget and Staff

The FY 2003 enacted budget for the OGP Climate and Global Change line item totalled \$74.2M, and its FY 2004 request totalled \$73.1M. OGP has 35 Federal employees, 9 contractors, and 15 Joint Institute employees.



For more information, contact:

Kenneth Mooney
Suite 1225
1100 Wayne Avenue
Silver Spring, MD 20910
Phone: (301) 427-2089 x136
<http://www.ogp.noaa.gov>